IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claim 8 in accordance with the following:

Claims 1- 7 (Cancelled).

8. (currently amended) A nonlinear precoding method based on modulo arithmetic for the transmit-side preequalization of K user signals to be transmitted in a digital broadcast channel with known transmission channel matrix H set up between a central transmitting station and K decentralized, non-interconnected receiving stations, the user signals consisting of data symbols a_k with k from 1 to K from a signal constellation having M_k levels and a signal point spacing A_k with a periodic multiple representation of the undisturbedly-transmitted data symbols ak in data symbol intervals congruent for K receive-side modulo-decision devices, a transmit-power-minimizing selection of representatives v_k from the range of values $a_k+A_k \cdot M_k \cdot z_{kk,}$ where z_{kk} is from the set of positive or negative integers including zero, and linear preequalization of the selected representatives v_k to form transmit signals x_k to be transmitted, comprising:

applying the nonlinear precoding method only to a reduced channel matrix H_{red} that is calculated from the equation $H = H_{red} R$, whereby H is the known channel matrix and R is a residual interference matrix ~~R~~ indicating remaining interferences at the receive-side, ~~whose~~ the residual interference matrix containing interference elements ~~are~~ chosen to assume ~~the~~ a range of values $A_k \cdot M_k z_{kl}$, where z_{lk} is from the set of positive or negative integers including zero.

9. (previously presented) A nonlinear precoding method according to claim 8, wherein he matrixes F, B, and P for the nonlinear precoding of the reduced channel matrix H_{red} in the transmit-side are obtained by factorization of the reduced channel matrix H_{red} into a matrix F with orthogonal columns, a lower triangular matrix B and a permutation matrix P with the introduction of a receive-side scalar gain factor g according to: $P^T H_{red}=1/g\ B\ F^{-1}$.

10. (previously presented) A nonlinear precoding method according to claim 9 or 10, wherein offset compensation is already carried out on the transmit signals Xk prior to transmission.